

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF GENERAL SERVICES



EVA TO ERP INTEGRATION GUIDELINE

BIZTALK MESSAGE BROKER

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ASSUMPTIONS

This design document makes the following assumptions:

1. All eVA XML requests will be sent to the agency for approval. Agency must respond with a Deny or Approve response.
2. Once eVA sends an XML request to the agency for approval, all processing is suspended for the requisition or purchase order in eVA until a response is received from the agency.
3. If the agency ERP system is down and cannot receive eVA XML requests from the DGS BizTalk message broker, BizTalk will continue to retry every so often, until the maximum retry time is exhausted. Once the maximum time is exhausted, BizTalk will send an email to the agency contact stating that it is unable to communicate with the ERP message broker. Processing of the eVA XML transaction will be suspended in the BizTalk until notification is received from the agency to retry the transmission.
4. Agencies will be responsible for notifying DGS with schedule planned outages, so that the DGS BizTalk message broker will be configured to hold the eVA XML transactions. Agencies will be responsible for notifying DGS when to resume with the transmission of eVA XML transactions.
5. Integrated agencies will utilize the “ByPass ERP Integration” flag in eVA to indicate if a requisition should not be integrated. If the flag is checked, the requisition and all purchase orders associated with the requisition will not integrate to the ERP. If an agency is setup to integrate purchase orders only, not requisitions, then purchase orders generated by the requisition will not integrate to the ERP.
6. An eVA Vendor XML transaction is also transmitted to the ERP for each eVA Requisition or Purchase Order XML transmitted. BizTalk is not expecting a reply from the ERP once the eVA Vendor XML is successfully transmitted. Any replies received by BizTalk for the Vendor XML transmitted will be ignored.
7. The agency ERP is responsible for transforming/translating eVA XML transactions received.
8. BizTalk creates the eVA Vendor XML transaction based on vendor views provided by CGI-AMS and accessible through the eVA VPN.
9. Valid Requisition/Purchase Order transaction types are: SEND, CNCL, CCNCL, PCNCL. PCNCL only pertains to Requisition integration. Further definitions of these values are on the data mapping document.
10. The exchange of messages between eVA, Biztalk and the ERP system are XML message documents.

GUIDELINE SECTION

Overview

As Requisitions and Purchase Orders are processed in the eVA a series of checks will occur to determine exactly which of these should be integrated to the agency ERP. These checks are all explained in great detail in the AMS-CGI functional specification. If a requisition or purchase order is to be integrated to an agency ERP system, eVA sends an XML transaction to the Biztalk message broker. BizTalk receives processes and routes the XML transaction to the agency ERP for approval. A vendor XML follows each requisition or purchase order XML transaction. BizTalk waits for a response from the agency ERP with an Approve or Deny XML. The response may include an error code and an error description to be passed to eVA. Agencies can setup signer rules in eVA for error codes that are sent with Deny responses to trigger additional approvers to the workflow once eVA processes the deny transaction and the requisition is re-submitted.

BizTalk is responsible for passing integrated XML messages between eVA and the agency ERP.

System Requirements

- Communication to/from the agency to BizTalk must be on a secured network using Secure Socker Layer (SSL) protocol, Version 3 or higher when receiving or sending XML messages.
- BizTalk sends and receives eVA XML transactions through a dedicated VPN connection to eVA.
- HTTPS port 443 and HTTP port 80 will be used to receive and post eVA integrated XML transactions.

Application Impact Analysis

BizTalk

The DGS BizTalk message broker is responsible for sending the eVA requisition XML, the eVA purchase order XML and the eVA Vendor XML to the agency ERP using HTTPS protocol or Web Services. The eVA XML messages are validated in BizTalk then routed to the appropriate agency ERP based on the URL information provided by the agency. An eVA Vendor XML is posted to the agency ERP prior to posting an eVA requisition or purchase order XML transaction.

BizTalk receives the Approve/Deny XML message from the agency. The response is validated and then routed to eVA for further processing.

Configuration

Information Required From the Agency

- URL address to post integrated XML transactions
- Method of transmission (HTTPPOST or WebServer)
- Provide a userid and password to connect to the ERP
- Specify if PCO (Purchase Card Orders) are to be transmitted
- Specify if agency wants to be notified via email when a requisition or purchase order response is Denied by the agency
- Provide an email address for the Agency Integration Administrator
- Indicate if integration is for Requisition or Purchase Order or both
- If agency plans to pass an error code on the Deny approval XML, indicate if workflow approval is to be created in eVA to handle error code.

Transaction Process

BizTalk Sends XML Transactions To ERP

The eVA Vendor XML and the eVA Requisition or Purchase Order XML are sent to the ERP using HTTPS protocol or Web Services.

BizTalk Waits Response From ERP

Once the eVA Vendor XML and the eVA Requisition or Purchase Order XML are sent to the ERP, BizTalk waits for a response.

If there is a communication problem with the transmission of the XML messages to the ERP, BizTalk will retry the transmission of the messages until the maximum retry is exhausted. Once the maximum retry is exhausted an email is sent to the ERP Integration Administrator stating that BizTalk is unable to communication with the ERP. BizTalk will not resume with the transmission until notification is received from the ERP Integration Administrator.

Banner ERP to BizTalk Response Process

Synchronous Responses:

- eVA Vendor XML Response – If the synchronous transmission is successful to the LDI message broker, Banner processes the XML and sends back a “Generic Response” OpenEAI message to BizTalk. BizTalk will ignore the message.
- eVA Requisition or Purchase Order XML Response – If the synchronous transmission is successful to the LDI message broker, the LDI processes the message and sends it to Banner for further processing. Banner sends a “Generic Response” OpenEAI message to BizTalk. BizTalk parses the

“Generic Response” to extract the ErrorNumber, ErrorDescription and the status.

- If the status is “successful” BizTalk will wait for an asynchronous eVA Approve/Deny XML response. BizTalk logs the “Generic Response” XML message on the ERPResponse table. No further processing is required for the successful “Generic Response” returned.
- If the status is “failure”, and the first ErrorNumber and ErrorDescription tag value is null, this indicates that the ERP LDI could not process the message and therefore it was not routed to Banner for processing. The second ErrorNumber and ErrorDescription tag on the failure “Generic Response” XML will not be null. The ErrorNumber has the value of “*****” and the ErrorDescription has the java exception error sent by the ERP LDI. These are the steps to process this type of failure “Generic Response”.
 1. BizTalk generates a Deny eVA Response XML.
 2. The Deny eVA Response XML integration_signer_rule tag value is set to the value of the “Generic Response” ErrorNumber. This is the second ErrorNumber tag value.
 3. The Deny eVA Response XML erp_message tag value is set to the value of “PO could not be processed through the LDI. An email has been sent to the Banner administrator" or similar message.
 4. The ERP Genereric response is logged to the ERPResponse table.
 5. The Deny eVA Response XML is sent to eVA.
 6. BizTalk sends an email to Banner Integration Administrator with the PO number and include the “Generic Response” ErrorDescription on the body of the message.

Asynchronous Responses:

- eVA Vendor XML Response – Any asynchronous messages received from Banner is ignored by Biztalk.
 - eVA Requisition or Purchase Order XML Response – If the synchronous “Generic Response” received from Banner is successful, then BizTalk waits for an eVA Approve/Deny XML response from Banner. The XML message is validated by BizTalk. If it passes validation, the message is routed to eVA for further processing.
- If the message does not pass validation, then an email is sent to the Banner Integration Administrator with the errors.

eVA Approval/Deny XML Message Process

The agency ERP sends BizTalk an approval/deny XML message. BizTalk verifies/validates the response. If the XML passes validation, BizTalk sends the response to eVA.

Exclusion of Pcard Requisitions/Orders For Banner ERPs

An agency can decide whether or not it wants to receive Pcard orders. BizTalk will inspect each eVA XML transaction to determine if requisition or purchase order is a Pcard transaction and if the agency wants to receive the requisition/order. If the agency does not want to receive the Pcard transaction, **BizTalk** automatically sends an Approve message to eVA with erp_message set to "Pcard requisition, BizTalk auto approve." to be displayed on the eVA history tab. BizTalk will not send the Pcard requisition/purchase order to the agency ERP for approval.

Cancellation Transactions

When a requisition or purchase order is cancelled in eVA, Biztalk sends the cancellation transaction to the agency ERP, but is not expecting a reply. eVA does not expect an approval/deny message when a requisition or purchase order is cancelled. If a reply is received from the ERP, it is ignored by Biztalk and eVA. There are three types of cancellations. A cancellation with transaction type of 'CNCL' is a cancellation of a purchase order. A cancellation with transaction type of 'CCNCL' is a cancellation of a previous order due to a Change Order. A cancellation with transaction type of 'PCNCL' is a requisition cancellation generated when integration is turned on for Requisition.

CrossWalks

BizTalk is responsible for crosswalking the following XML fields:

XML Field Description	Crosswalk From Description	Crosswalk To Description	Example
BuySenseDoc.Header.LineItems. CommodityCode.NIGPCode	UNSPSC	NIGP	UNSPSC '10101500' crosswalk to NIGP '04000'

XML MESSAGES

Integrated transactions exchanged between eVA, Biztalk and the agency ERP are XML message documents. The agency ERP is responsible for any transformation or translation needed. Sample of requisition, purchase order XML transactions, including change orders and cancellations, APPROVE/DENY messages from the ERP, can be provided upon request or downloaded from the eVA website with access privileges.